

RISK MANAGEMENT

Guidelines for Decision-Making

**Resource Materials
for
Educational Meetings**

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Uncertainty and Decision-Making

I. Sources of Uncertainty

A. Production

B. Price

C. Obsolescence

D. Political/Social

E. Human

F. Financial

G. Mechanical

H. Technology

I. Casualty

II. Decision-Making under Uncertainty

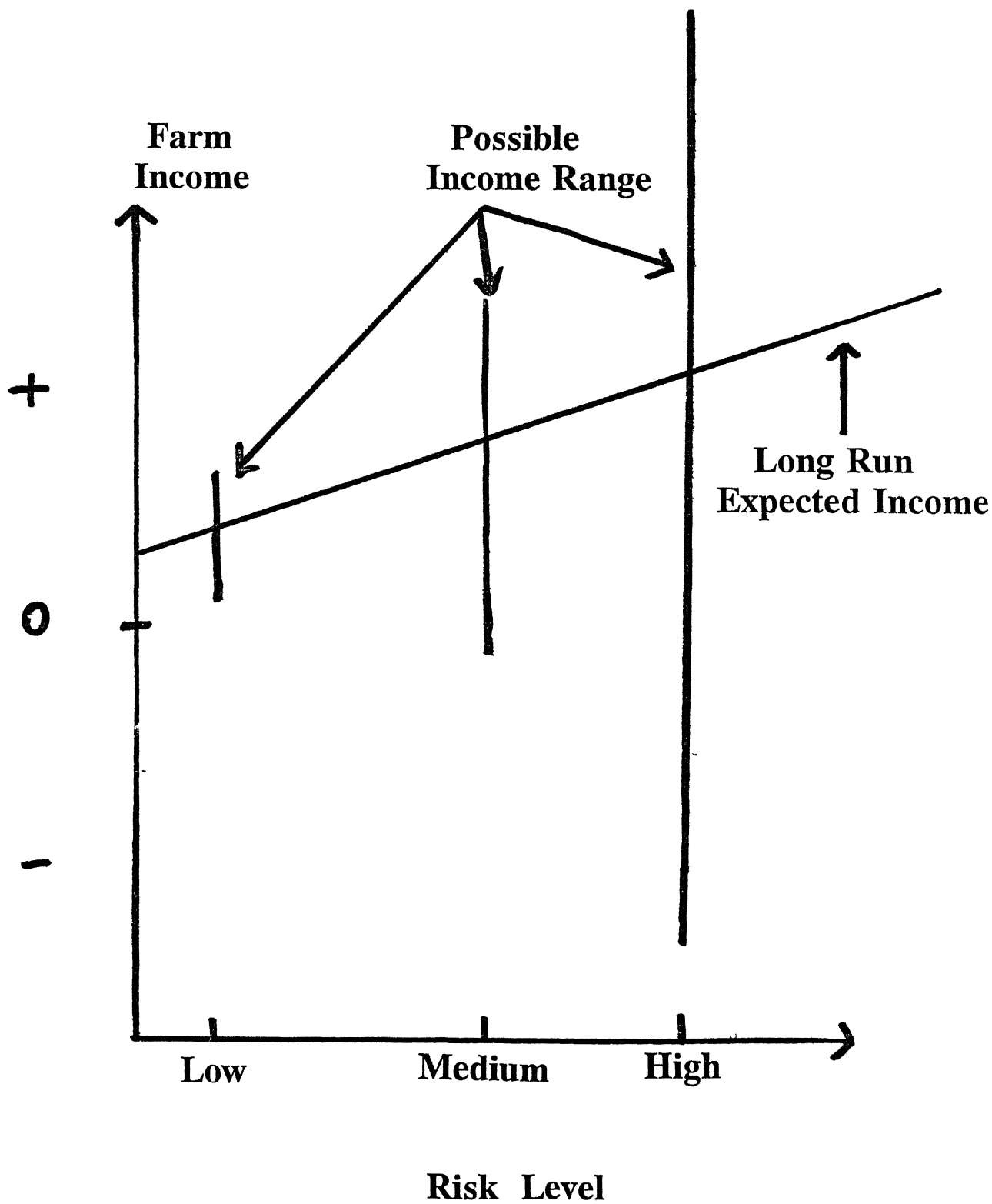
A. Uncertainty Creates Risk

**B. Risk Means ↑ Chance of
Income below Expectation**

**C. Good Manager Can Recognize
Situations Where Risk Tends
to be Greater**

**D. Balancing of "Better" and
"Worse" Events**

**E. Uncertainty Provides Opportunity
for Profit**



III. Guidelines for Decision-Making in Uncertain Environment

A. Reassess Goals

- 1. Stability and experience
"feel" for risk/profit**
- 2. Economic fog
no longer "fly by seat of pants"**
- 3. Where are you going?**
- 4. Prioritize goals**
 - income**
 - capital accumulation**
 - leisure**
 -
 -
 -
- 5. What level of risk is
acceptable?**
 $\pm \$1,000 \implies \pm$ satisfaction

B. Study Operating Environment

1. Economic and physical

2. Place odds on possible outcomes

- well-informed people differ**

- \therefore chance of each**

high - moderate - low
prices
weather
costs

3. Next year and next 5 years

4. Probabilities

- difficult**

- basic ingredient of operating and investment decisions**

C. Evaluate Consequences of Alternative Possibilities

1. Consider more than "most likely"

2. Consequences of other possibilities

- some may be too devastating

3. Buying land - helpful to know if can pay mortgage if

Corn Price \$3.00 \Rightarrow \$1.50/bu.

Corn Yield 150 \Rightarrow 80 bu.

Land Price +10% \Rightarrow -10%/yr.

Input Costs 0 \Rightarrow +20%/yr.

BUY LAND ?

Net Cash Results (NCR)

Corn Yield	<u>Corn Price</u>			
	\$2.20 (.01)	2.60 (.40)	3.00 (.40)	3.40 (.19)
130 (.15)	\$ -35 [.0015]	\$ 17 [.06]	\$ 69 [.06]	\$121 [.0285]
110 (.70)	-71 [.0070]	-27 [.28]	17 [.28]	61 [.1330]
90 (.15)	-107 [.0015]	-71 [.06]	-35 [.06]	1 [.0285]

(probability) [Joint Probability]

Long Run Expected NCR =

$$\sum_i \text{NCR}_i \times \text{Joint Prob}_i = \$6.88$$

but 59% Prob. NCR will be +

41% Prob. NCR will be -

D. Be Aware of Increased Risk from Higher Capital and Other Costs and Widely Fluctuating Prices

- 1. Increasing capital requirement**
- 2. Fluctuating interest rate**
- 3. Total capital cost**
- 4. Borrowed capital**
- 5. Vulnerability to \uparrow costs/ \downarrow prices**
- 6. High equity \implies high risk capacity**

E. Emphasize Crop, Livestock, Labor, and Machinery Efficiency

1. Increase profit and decrease risk at same time

2. $P \text{ much} > C$

"production priority"

3. Narrowing P/C gap

"efficiency priority"

4. Profits from \uparrow efficiency are from reduced cost/unit rather than \uparrow resources, $\therefore \downarrow$ risk

F. Keep Risk in Line with Goals and Capital Position

Calculate cash flows for a range of P/Y/C possibilities before committing to debt

G. Give Operating Considerations First Priority and Investment Second Priority

- Farmers are producers first and investors second**
- Use capital to produce**
- When efficient and have excess funds, then invest**

H. Purchase Non-Land Inputs as Soon as Possible, without Overextending the Business Financially

- Purchase if needed**
- Prices will continue to ↑**
- Don't buy as "inflation hedge"**

I. Reconsider Production System - Situations Change

- Trend: substitute cap for labor**
- Shift may be slowing as prices
for labor-saving equipment and
prices increase faster than wages**
- Change inputs as prices change**

J. Pay Close Attention to Time and Place of Purchasing and Marketing

- Prices will continue to fluctuate**
- Marketing strategies**
- Alternative markets**

K. Think More Broadly about Alternatives

Traditional Structures Changing

- Land rental**
- Contracting production**
- Building/equipment leasing**
- Operating vs. ownership**
- Forward selling**

L. Summary

1. Uncertain times require change in management strategy

- More emphasis on efficiency, buying, and selling**
- Control risk to acceptable levels**
- Constant adjustment of production system**

2. Good manager

- Not always right**
- Expects and plans for uncertainty**
- "In position to"**

- * Take action - with good odds - toward goal**
- * Avoid action - with significant odds - away from goal**

IV. Other Risk Management Alternatives

A. Gradual Expansion

B. Multiple Cash Flows (range price/yield)

C. Current Records to Spot Problems Early

D. Hedging/Contracting (don't play hog)

E. Pre-Arrange Debt Payment Waiver

F. Lengthen Loans

G. Time Payments with Sales

H. Stay Liquid

I. Low D/A Ratio

J. Credit and Cash Reserves

K. Diversify

L. Stable Enterprises

M. Low Investment Production Systems

N. Crop-Share Rather than Cash Rent

O. Lease Rather than Own

P. Custom Work for Guaranteed Income

Q. Partner with Resources You Lack

R. Insure Timeliness with Adequate Resources

S. Carry Insurance

T. High Level of Maintenance

U. Good Employee Relations

V. Some Strategies for Decision Making under Uncertainty

A. Maximize Expected Income

B. Select Plan with Highest Possible Income

Maxi-Max

C. Select Plan that Minimizes Maximum Loss

Mini-Max

D. Select Plan with Highest Expected Income but with a Minimum Level Income

Some of Both

